

New immersive alcohol marketing and commerce in metaverse environments

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Abstract

Introduction: The study aims are to: (i) explore methods for identifying alcohol company marketing in metaverses; (ii) identify current types of alcohol marketing in metaverses; and (iii) identify dominant portrayals and meanings of alcohol marketing in these settings.

Methods: Our design was exploratory, employing various approaches to identify alcohol company marketing across multiple metaverses. In stage one, we systematically navigated through metaverses as an avatar, documenting and coding all instances of alcohol company marketing. In stage two, the research team collaboratively explored and discussed excerpts of this marketing. The team thematically analysed the transcribed discussion, identifying key meanings and interpretations of immersive and interactive alcohol marketing.

Results: Stage one: alcohol company marketing was identified in two metaverses, Decentraland and Sandbox. Within those metaverses were five alcohol company marketing experiences: Heineken Silver, Jose Cuervo Tequila, Wisher Vodka, San Matias Tequila, and Mason Martell Cognac. Marketing strategies included immersive commerce, virtual drinking, immersive branding, immersive engagement, gaming, non-fungible tokens (digital assets), education, non-player characters promoting brands and virtual event-based marketing. Stage two: themes identified were: (i) immersive branding, representing continued exposure to brands that were both foregrounded and on the edge of users' awareness; (ii) immersive engagement, including alcohol-related gaming, quests, and alcohol production; (iii) avatars simulating drinking behaviour (virtual drinking); and (iv) immersive commerce representing how metaverse alcohol marketing may drive alcohol transactions.

Discussion and Conclusion: Alcohol companies are using novel immersive marketing techniques in metaverses. The impact on the experiences and drinking behaviours of users are unknown and require investigation.

KEYWORDS

alcohol drinking, marketing, virtual reality

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1 | INTRODUCTION

New and immersive metaverse environments are rapidly pushing the boundaries in creating virtual social worlds, connecting people globally and providing (and testing) appealing environments in which users want to spend their time. However, they are not without risks. These environments are underpinned by business models that prioritise profit-making and aim to capture users' attention, time and engagement. In the case of unhealthy commodities, profit is bolstered when metaverses can translate virtual experiences into real-life purchases of products. When these products are addictive and health-damaging (such as alcohol), this may present new health risks around personal and population consumption and behaviours.

Rapidly developing technology has enabled the creation of multiple metaverses that blur physical and virtual boundaries [1]. Metaverses are fast-evolving and dynamic digital ecosystems. While there is no one definition of a metaverse it can broadly be described as a digital world where users can engage with one another and virtual environments using avatars combining any or all aspects of augmented reality (digital overlay on the real world), virtual reality (via headsets), social media, online gaming, non-fungible tokens (NFT; digital assets) and cryptocurrencies [2–4]. In the metaverse, individuals embody avatars, which are 3D virtual bodies, to explore, interact, and connect with both environments and other users. What makes the metaverse important is that it takes digital marketing to a new level by enabling industry to engage with users in a fully interactive, three-dimensional environment, far beyond the traditional approaches [5]. Metaverses can also allow for the creation of original immersive branded experiences to promote products and encourage users to engage virtually in experiences and behaviours related to products. Metaverses are diverse, with some metaverses having hundreds of millions of registered users while others are still in their early stages with fewer users. However, investment by large corporations is growing [6–10] and celebrities have already begun to utilise some metaverses as a brand extension [11].

Alcohol corporations, early movers in previous new technologies, especially social media platforms [12], are developing innovative ways to market alcohol products in metaverses [13]. Metaverses create wrap-around consumption-oriented worlds and more powerfully engaging ways to reach and hold consumers' attention, thus potentially posing greater risks to users than social media platforms. For example, in some metaverses, young users are already interacting within virtual bars [14]. The metaverse's virtual, immersive, and interactive qualities allow for novel approaches to alcohol marketing, yet these new methods remain largely unexplored and undocumented.

Identifying and exploring the new types of alcohol marketing occurring in metaverse environments is vital for understanding what is happening. We need insight into the meanings being conveyed about alcohol, drinking, and branded products within metaverse marketing, and the ways alcohol companies are interacting and engaging with users in the metaverse. To gain such understanding we need to find ways to research metaverse environments and ask exploratory questions.

Studying alcohol content and marketing in metaverse environments appears to be more challenging than studying this content on the social media platforms of current cyberspace. Many methods used to explore alcohol content and marketing on social media do not apply because information on user engagement with posts, comments and likes from which researchers can subsequently interpret alcohol corporation practices, does not exist in the metaverse (because posts/comments don't exist there). In fact, we do not know what data might be available and therefore need to explore novel methods for researching these emerging metaverses.

To avoid repeating the failure to understand the health and regulatory implications of social media and its unhealthy product promotion [15, 16], it is critical to investigate developments in the metaverse that may accelerate the need for a regulatory response as increasing numbers of these environments become publicly accessible. The aims of this study were to: (i) explore methods for identifying alcohol marketing used by alcohol companies in metaverses; (ii) identify the types of alcohol promotion currently occurring in metaverses; and (iii) identify the dominant portrayals and meanings of alcohol content and marketing in these settings. Findings will inform the development of effective approaches to researching and understanding this new dimension of alcohol promotion.

2 | METHODS

This exploratory study employed a range of different approaches to identify alcohol marketing in a number of metaverses. In the first stage of the exploration, content analysis was employed as a way of documenting the alcohol marketing content we saw as we systematically navigated through each metaverse. Findings from the content analysis identified five experiences/scenes within two metaverses where alcohol company marketing was prominent, and we focused on these in the second stage. This involved the research team collaboratively exploring excerpts of alcohol marketing in these spaces, discussing them as one member navigated an as avatar around each space. The discussion was recorded and subsequently transcribed then analysed to identify alcohol content and

its meanings and potential functions, as novel types of interactive alcohol promotion material and how these were responded/reacted to, or engaged with, by group members.

2.1 | Content analysis: Identifying alcohol marketing in metaverses

2.1.1 | Identifying alcohol marketing in metaverses

A Google search identified 35 metaverses and of these, 20 were accessible to be explored (6 June 2023–30 January 2024). Reasons for inaccessibility included—no longer in operation, unavailable from Aotearoa, New Zealand, and platforms in beta (test phase). In addition, one metaverse was a scam, glitches also prevented accessibility and it was not feasible to fully explore some metaverses given their size (e.g., Roblox and Fortnite). The metaverses we accessed were free to explore. Metaverses were downloaded to a research laptop and accessed by creating a log-in using a pseudonym (and in one case registering for meta-mask crypto wallet to complete log-in).

To locate metaverse experiences/scenes containing alcohol, TH and KM searched for the following key words in the map search function: alcohol, beer, vodka, whiskey, tequila, wine, cognac, spirits, bourbon, gin, rum, brandy, liqueur, sake, soju, bars, taverns and night-clubs. Metaverses were also scoped by visually checking maps and exploring them as an avatar, including visiting virtual bars and taverns to check for alcohol company marketing. To locate other means of advertising, KM also searched the same keywords in the marketplaces of the Sandbox Alpha (Sandbox Gamemaker uses Sandbox Alpha's marketplace) and Decentraland. KM searched events in a similar fashion, but no upcoming events that could be attended were found at the time of this study.

An Excel spreadsheet was used to record various aspects of each metaverse, as follows: (i) each type of alcohol advertising/promotion or content; (ii) aspects of the computer-generated environment related to alcohol; (iii) visual inspection of, and interactions with, non-player characters (NPC); (iv) wider contextual themes and environment; (v) whether these aspects were used in other metaverse settings; and (vi) the names of the metaverse platform and experience title where relevant. Branded alcohol-related items found in the metaverses' marketplaces or previous alcohol-branded events were also noted. In an effort to collect rich and comprehensive data, any similarities in content between the various alcohol marketing experiences/scenes were recorded,

regardless of whether what was found related directly to advertising the product. One example includes the presence of food. This was done in the hope of collecting data with future utility for other studies. These metaverses change frequently, so new searches were completed every week for 20 weeks at the peak of exploration, and all metaverse experiences/scenes were examined soon after discovery. Once a metaverse experience/scene is closed or the software updated by the platform, the experience/scene cannot be re-entered, making timely exploration important.

2.1.2 | Engaging with the alcohol metaverse experiences

Metaverse experiences/scenes that contained alcohol company brands were investigated and researchers interacted with alcohol marketing within the metaverses as they discovered them. Some metaverse experiences/scenes included an overarching 'quest' (in videogame-style format) with steps that needed to be completed, while others were more open and exploratory. KM went through each experience/scene from entrance to exit, visually inspecting and interacting with anything alcohol-related and documenting this on the Excel sheet using the criteria outlined above (see identifying alcohol marketing in metaverses). For the purposes of this study, KM approached and interacted with all alcohol-related and marketing props (anything tangible that the avatars might interact with) she encountered. Images of relevant props were captured using Windows Snipping Tool (screenshot) and video capture. For metaverse experiences/scenes with a quest, KM attempted to complete the quests from start to finish. Quests were completed as they arose and in order of reception when possible. If there was a side quest, the main quest was prioritised. It is important to note that once the metaverse experience/scene is entered and quests are started, they must be completed because there is no option to save progress as in traditional gaming. Following the same process and criteria used in the (goal-less) experiences, all possible interactions were completed section by section, and relevant information recorded via Excel and with screen grabs. Any problems encountered with gameplay were solved by searching for playthroughs by other gamers on YouTube and Twitch. Occasionally, there would be errors in the metaverse experience/scene itself (i.e., glitches) that would prevent the researcher from continuing. In these cases, gameplay would need to be restarted. If there were no playthroughs and gameplay was not possible due to glitches or lack of skill, this was noted in the Excel sheet.

2.1.3 | Engaging with NPCs to obtain marketing

NPCs within metaverse settings often have multiple dialogue options, written as text in speech bubbles, that they cycle through when engaging with the player. To obtain all dialogue options, researchers interacted with the NPCs as many times as a new dialogue occurred. Interacting in this context refers to approaching all parts of the experience/scene and looking for pop-up interaction bubbles (typically requesting ‘E-speak’), which means pressing the E key to speak with the NPC. Once all the dialogue options had been repeated at least twice, the researcher moved to the next NPC. To ensure accuracy of recorded dialogue, Window’s Snipping Tool was used to take a screenshot of all NPC dialogue text, which was then transcribed into an Excel database. To obtain a full scope of the experience/scene, all NPCs were interacted with in the order they were naturally encountered as the player moved through the space.

2.2 | In-depth exploration of alcohol content in metaverses: Group discussion of alcohol promotion experiences

The first stage of this exploratory study led TH to identify a selection of images and videos of alcohol marketing content that were worthy of deeper examination within two metaverses, Decentraland and Sandbox. Content was selected because it was novel and encouraged users to interact with branded images and spaces. The chosen excerpts were from three experiences/scenes—Heineken Silver and Cuervo Tequila in Decentraland and San Matais Tequila in Sandbox. This content was then explored by the research team (six members) during a 90-min, audio-recorded session where they were physically present (with one exception, who joined by Zoom) and discussed the marketing materials encountered. One group member navigated through the images and videos while everyone discussed what they were seeing on the screen, commenting on things that grabbed their attention, the aesthetic, what interactions were possible, and so on. All researchers were fully engaged in the group discussion, often interjecting, bouncing ideas off each other, puzzling over particular scenes, curious to explore particular areas, and so on. Our focus was the meanings and representations of alcohol, drinking, marketing and promotion within these metaverse spaces.

The discussion was transcribed, and the transcript—alongside the metaverse images and videos—used as data. Reflexive thematic analysis was then carried out within an interpretivist paradigm [17]. We applied an

exploratory, inductive approach to thematically analyse the discussion transcript. This involved: (i) familiarisation with the data; (ii) coding the data; (iii) generating initial themes; (iv) reviewing and developing the themes (as a team); (v) refining, defining and naming themes; and (vi) reporting [17]. This approach involves researcher subjectivity, in conceptualising and conducting thematic analysis effectively, while collaboratively ensuring quality, and in generating new knowledge [17]. Together six researchers, two Māori (indigenous people of Aotearoa, New Zealand), three Pākehā (white New Zealanders) and one US researcher, all with experience in alcohol marketing, offered kaupapa Māori, public health, psychology and alcohol policy perspectives. We also spanned a range of ages, genders and ethnicities, thus bringing differing academic and research experiences to the study, including in relation to alcohol advertising on social media and content analysis. None of us were familiar with metaverses, although GM had experience with Minecraft and Fortnite prior to this study.

3 | RESULTS

Of the 20 metaverses examined, six had alcohol-related content and two had alcohol company marketing and promotion (which was the focus of this study) (see Table S1, Supporting Information). Table 1 provides a description of the two metaverses that had alcohol company marketing and promotion. An additional alcohol company metaverse, Kinehan (Whiskey), was identified but it was not functioning (this was confirmed with the platform by our IT services) (not tabulated).

As exemplified in our results below in Table 2, alcohol company metaverse experiences contained extensive examples of novel and innovative forms of alcohol marketing. These included immersive commerce (selling alcohol via inside a virtual world), including QR codes and links. Virtual drinking included virtual beer and cocktails, virtual beer tasting, a virtual beer vending machine, virtual bars and virtual distilleries. NFTs (see Table S2, Supporting Information, for a glossary of metaverse terminology) were used in ways that included buying alcohol as NFTs and being able to exchange these for real alcohol in the world outside the metaverse. New forms of engagement include gaming, such as playing/completing gaming quests to earn NFTs/merchandise, virtual scavenger hunts for tequila bottles, and combat. We identified virtual education about alcohol production/distribution or company history. We found NPCs who marketed alcohol by discussing products while wearing alcohol branded and/or alcohol-brand-inspired clothing. We encountered an NPC bouncer who asked

TABLE 1 Metaverses with alcohol company marketing and promotion.

Metaverse	Purpose	Alcohol company name	Started
SANDBOX	Blockchain-based game and metaverse world	San Matias Tequila Maison Martell Cognac	2018–2019
Decentraland	Virtual social world that's on the blockchain	Heinekin Wisher vodka Jose Cuervo Tequila	2020

for age verification. We also encountered a wide range of contextual themes incorporated into alcohol company metaverse experiences, including social/friendship (e.g., dance floor/raves, references to friendship, festivals and celebrations, and food).

We identified similarities and differences in alcohol marketing across companies and metaverses identified in this study. Most companies (and metaverses) used virtual bars, virtual distilleries, with large alcohol bottles on display, guest-driven plot experiences (gaming), educating users about the product, and NPC bartenders who discussed the product. Differences were identified between companies, with Heineken and Jose Cuervo interacting with virtual drinking life more than the other companies, Maison Martell was more focused on NFTs than other companies, and San Matias and Wisher brands were the only companies to use immersive commerce. Jose Cuervo tequila was the only brand identified to use limited-time, event-based marketing during the study period (Table 2).

3.1 | Thematic analysis

Four key themes were identified from the analysis of the research group discussion, during which six different examples of alcohol marketing were explored. These themes were immersive branding, immersive engagement, virtual drinking and immersive commerce. Each theme is described below.

3.1.1 | Immersive branding

The immersive branding theme refers to continuous exposure to alcohol branding within a specific metaverse space, branding that was both obvious and foregrounded, while other branding remained in the background, sometimes almost escaping notice. Immersive branding was prevalent within the Heineken Silver metaverse. We viewed a short clip from the site that represented a Heineken Silver Cyber-Brewery. Using rectilinear formats that seemed to evoke a 'Lego'-like environment, the predominant colour was silver to evoke the name of the

specific beer being advertised, along with the deeply familiar red and green of the Heineken brand, as shown in Figure 1. The Heineken Silver Cyber-Brewery was populated with NPCs that represented lab workers in human/android forms.

The NPC introduced us to the brand with conversations, such as 'It's a complete coincidence that my hair is in a shape of the star. Just like the Heineken® logo, have you noticed?' and 'I am so happy about making Heineken® the most meaningful brand to you!'. Together these features and others combined to build a futuristic, gamified aesthetic that transported us away from our individual everyday realities to a representational and codified space. In this space every day norms were to variable degrees 'suspended', allowing other norms around consumption to emerge and potentially prevail.

Heineken branding was omni-present in this space—in the decor, on virtual Heineken Silver bottles, cans, brewing equipment, NPCs (Heineken Star-themed clothing) and virtual branded beer-drinking related activities. In one screenshot, we counted 17 instances of Heineken branding. This immersive intensification of branding at multiple levels is a result of marketers having full control of the environment and may arguably evoke a form of brand imprinting, for some less critical participants.

The extent of brand repetition was also explicitly linked to building 'brand love', albeit in an ironic way. This irony is evident through an NPC conversational gambit, 'Do you think there is enough branding for Heineken® to become a brand you love?'. Here marketers acknowledge the excessive brand exposure, which could be taken at face value as a joke, but also perhaps as a way to use humour and self-awareness to build brand trustworthiness (ironically pointing to the use of irony) and emotional connection with younger Gen Z users and others who are aware of the commercial (and branded) nature of the metaverse environment. Heineken has been upfront about the overt nature of the Heineken silver metaverse—admitting that 'the whole thing is meant to be a joke', [18] while investing capital and other resources to generate actual sales and consumption. By using ironic humour, Heineken is able to distance itself from accountability for its marketing tactics. 'The whole thing is meant to be a

TABLE 2 Content analysis of alcohol marketing in metaverses.

Alcohol marketing in the metaverse	Alcohol company name	Number of alcohol companies	Number of metaverses in which marketing identified
Immersive commerce			
QR code to scan using phone to a website to buy alcohol	San Matias	1	1
Clickable links to websites to buy alcohol	Wisher	1	1
Virtual drinking life			
Virtual bars	San Matias; Maison Martell; Jose Cuervo; Wisher	4	2
Virtual breweries	Heineken	1	1
Virtual distilleries	San Matias; Maison Martell; Jose Cuervo	3	2
Virtual drinks/cocktails	Heineken; Wisher; Jose Cuervo	3	1
Virtual beer tasting	Heineken	1	1
Virtual beer vending machine	Heineken	1	1
Cocktail/drink recipes	Wisher	1	1
Large bottles on display	Heineken; San Matias; Maison Martell; Jose Cuervo; Wisher	5	2
Large alcohol ingredients	Heineken; San Matias; Jose Cuervo	3	2
Non-fungible tokens (NFT)			
Play/complete quests to earn access to exclusive NFTs/merchandise	San Matias	1	1
Buy real-world experiences as NFTs	Maison Martell	1	1
Purchase alcohol-related NFTs (no real-world gain)	Maison Martell	1	1
Buy alcohol as NFTs (exchange items for real alcohol or sell them)	Maison Martell	1	1
Gaming			
Quest-driven plot experience (including production of alcohol)	San Matias; Maison Martell; Jose Cuervo	3	2
Scavenger hunt bottle missions	San Matias; Maison Martell	2	1
Pool volleyball	Jose Cuervo	1	1
Combat	San Matias; Maison Martell	2	1
Education			
Educating users about alcohol production/distribution	San Matias; Maison Martell; Heineken	3	2
Educating users about alcohol company's history	Maison Martell	1	1
Non-player characters (NPC)			
Use of a 'bouncer' for age verification	Heineken; Maison Martell	2	2

TABLE 2 (Continued)

Alcohol marketing in the metaverse	Alcohol company name	Number of alcohol companies	Number of metaverses in which marketing identified
NPCs/NPC bartenders that discuss the product	Heineken; San Matias; Maison Martell; Jose Cuervo	4	2
NPCs dressed in logo/look inspired by product	Heineken	1	1
Colour scheme/décor associated with brand	Heineken; Maison Martell	2	2
Clickable links to website and/or social media	Wisher	1	1
Dance floor/rave area with NPCs dancing	Heineken	1	1
NPCs based on real people	San Matias; Maison Martell	2	1
NPCs that look like PCs (cannot interact with)	San Matias	1	1
Other			
Event-based marketing (limited time)	Cuervo Metadistillery	1	1
Avatar wearables for purchase	Miller light	1	1
Contextual themes			
Social fun/celebration, for example, dance floors/raves friendship, festival/celebration, food	Heineken; San Matias	2	2
Focus on period/time, for example, past/future, futuristic themes	Heineken; Maison Martell; San Matias	3	2
Other, for example, nature/wilderness, positive language, art	Maison Martell; Heineken; Wisher	3	2



FIGURE 1 Heineken Silver Cyber-Brewery. Image source: <https://screenrant.com/heineken-silver-first-virtual-beer-metaverse-joke/> [18].

joke' is also a way of engaging users to participate, but not feel that they are being taken in. By letting users in on the joke, a relationship is potentially developed that treats them as equals, assuaging the potential fear that users are passive recipients of marketing tactics.

Continuous immersive brand exposure was also noticeable in the San Matais metaverse. This space was aesthetically and practically very different than the Heineken space. Immersive branding was consistent with representations of a valued product, a family-run tequila business, along with the 'carnival' fun, music, dance and release of Fourth of July celebrations. Branded promotion included a virtual, supersized, revolving San Matais tequila bottle, alongside an exact 3D replica of its label, surrounded by branded flags depicting the company name on a crescent moon. The same moon was subtly replicated in the sky as part of the setting, almost escaping the researchers' notice. Both the *noticed* and *unnoticed* elements of branding, patterned into the site, are central to its maintenance and reproduction. This branding is often explicit and overt and engages users in obvious ways. However, the immersive nature of a metaverse experience/scene allows implicit branding that occurs much more in the background, on the edge of users' awareness, that is through mundane, 'forgotten' signifiers.

3.1.2 | Engagement through games and interactive experiences

Alcohol-related gamification was present in the metaverses we visited where the similarities and associations with online gaming environments included the 'live', virtual ambience, as well as common elements, such as avatars, journeys, quests, contests and real-world ties-ins. The Minecraft-like, block-based appearance of some of the experiences strongly resonates with gaming and was noted as appealing to children, who would take to it 'like ducks to water' as one researcher participant put it.

The San Matais tequila experience gave a glimpse of these characteristics. Users become involved in virtually 'making the product', commencing with the virtual cultivation of agave plants, progressing to harvesting, then processing leaves and through to the fermentation, production and distribution of the drink. At one level this seems pointless, but it fulfils a broad goal of narrating corporate values around production and provenance in ways that gloss over health and environmental impacts, keeping users on-site, and may encourage uncritical discourses around participation. However, on another level, sufficient accumulations are rewarded with higher levels of access and other privileges that encourage persistence and achieve site goals of presence, engagement, and potential purchase. In addition to more banal activities,

there were also multiple curiosity-provoking, game-like opportunities to 'engage' with the brand. These included, for example, a poolside bar with a selection of free virtual drinks, a DJ/dance party, and engaging in combat games, such as smashing celebratory pinatas to gain the virtual bottle inside needed as part of a quest.

In the Heineken Silver metaverse the 'ironic' promotion of the virtual beer (now a material product in the real world) approaches engagement with the brand through entertaining visitors with a visit to the virtual can laboratory. Here information and gentle mockery are blended as part of engagement encouraged through interacting with NPC's: 'Please post it with a cool and relevant hashtag: #awesomeheinekenmarketingstunt', along with other encouragements to interactive participation, such as a beer can shaking competition and beer 'tasting' by utilising a tasting card with common beer flavour descriptors.

3.1.3 | Virtual drinking

There is virtual consumption of alcohol products by avatars in metaverse environments. Features of alcohol consumption in the sites are underscored with potential real-world tie-ins that are aided by the post-pandemic affordances of online purchases and seamless 24/7 delivery in many cities (see immersive commerce theme below). Mimesis is evident in the presentation of virtual bars where 'customers' can interact with bartenders, consider options among virtual cocktails, make orders, collect ingredients, obtain recipes, and generally enact drinking behaviours in bars and other social environments, such as festivals. In the Heineken Silver experience, simulated drinking activities centre on imagined consumption. For example, an NPC introduced users to the site using a slightly sardonic conversational gambit: 'Welcome and thank you for making our marketing team happier. This is the home of Heineken Virtual Silver. There is actually a lot to do here. I advise you to start with the beer tasting machine'. Participants in the virtual tasting were encouraged to imagine the taste and flavour of the product. Participants were also able to virtually obtain beer from a beer vending machine and one of our researchers noticed that it looked like the beer was 'going down your throat', offering new possibilities for the desired virtual engagement with the brand and experiential, virtual immersive consumption of alcohol.

3.1.4 | Immersive commerce

One of the videos featured our research avatar exploring the tequila-orientated metaverse environment of San Matias. This consisted of a Fourth of July celebration

theme park with American livery, flags and fireworks, foregrounding notions of American nationalism, as befitting the occasion. Together, these things appeared to focus—with considerable detail, nuance and variability—on making a sale. We noticed in particular the use of a QR code that prompts users to scan the code with their phone, thereby transporting them to a website, without initial age gating, to purchase tequila. This particular use allows customers to seamlessly make an alcohol purchase while remaining immersed in this metaverse environment. Given the realities of rapid home delivery, this potentially means that a buyer could commence drinking while still at the virtual carnival. We observed a lot of branding leading up to the site of the QR code and at least three dynamic devices that drew the viewer's eye towards the QR code, including a revolving branded image of a tequila bottle, a fireworks display and the repeated passage of NPCs in the direction of the code. One participant researcher noted that the QR code engaged a sense of curiosity—'I wonder where the QR code takes me?'

4 | DISCUSSION

This study explored innovative approaches to studying marketing within metaverse environments. We have outlined our exploration methods to provide researchers and other relevant audiences with an understanding of metaverse alcohol environments, methods of metaverse data collection, and the types of data accessible within some metaverse environments. Metaverses present new possibilities for researchers to understand alcohol marketing and could lead to completely novel ways of conducting health research. The potential for the development of new research designs in a virtual world is extensive and the development of new methods is important going forward.

We found that some alcohol companies made considerable investments within metaverses, producing, reproducing and engaging people with their alcohol brands. 'Immersive branding' was evident, characterised by continuous exposure to marketing and promotion of alcohol coupled with an interplay between foregrounded branding and branding that operated on the edge of users' awareness. The continued exposure to brands within metaverses has a number of functions, including increasing users' familiarity with the product, logo and branding, linking these with positive experiences, fun and positive affect, while ensuring that meanings and feelings are embedded within key signifiers of the brand (such as the Heineken star). Overt marketing was often undercut by humour that acknowledged the visitor as a knowing and not easily manipulated participant in the metaverse.

Branding operated subtly in the background of users' experiences, often going unnoticed in mundane ways that can become highly available when a fresh stimulus to drink becomes salient [19], prompting brand recall or consumption, for example. This type of marketing functions to normalise purchase and consumption of alcohol products in a way that is likely highly effective for marketers. It also reproduces alcohol as a positive, 'always appropriate' product, and its consumption as taken-for-granted and beneficial. Combined with immersive commerce, alcohol becomes a product that is appealing, normalised and potentially purchased with ease.

In the metaverses we explored, immersive alcohol company marketing, often gamified, offered extensive engagement opportunities. These included virtual drink production (tequila) and consumption mimesis (beer), as well as rewards for completion of quests. Incorporating gamification elements into virtual experiences can encourage participation, keep users onsite, and is likely to be highly appealing to children, especially as some of the software used in alcohol company metaverse experiences is reminiscent of long-established games. Gamification in relation to alcohol can encourage excessive engagement with products that are detrimental to health. Gaming can also release neurotransmitters and even though some of the tequila quests and games were quite banal, they may still elicit dopamine through anticipation of potential rewards or achievements [20]. The 'addiction by design' techniques already used on social media by corporations producing harmful products [21, 22] will likely become more innovative and intense in metaverse environments [15].

Alcohol marketing in some metaverses introduces users to virtual drinking through various scenarios. We found multiple virtual drinking opportunities that users could experience through the virtual embodiment of avatars, representing another shift in alcohol marketing. Other studies have highlighted how embodying an avatar can lead individuals to adjust their real-life behaviour to align to the behaviour of their avatar, known as the Proteus effect [23, 24]. The Proteus effect shows how the lines between online virtual consumption of unhealthy commodities and real-life behaviour can be blurred to potentially drive consumption. The metaverse also creates an interactive space that includes opportunities for virtual consumption of alcohol. The illusion of sociability may help eliminate stigma [25] and potential self-prohibition around drinking alone. These virtual environments are created within an overall environment where online social opportunities are increasingly accepted and sought, thus changing social norms and discourses. Since metaverses are likely to become more significant in some people's everyday lives, increasing

our understanding of the effects of these new methods of marketing effects is critical.

Immersive commerce is reshaping the future of retail by offering innovative and enhanced approaches to e-commerce that alcohol companies are leveraging within metaverses. We found several ways in which alcohol marketing may drive consumer transactions for alcohol. For example, immersive commerce was seamlessly integrated into the metaverse experiences, eliminating the necessity for users to exit the platform to purchase alcohol online. There was also extensive alcohol brand exposure that aligned with the brand's identity and novel dynamic techniques to captivate users' attention towards making purchases via QR codes. Further exploration of whether there is a concerted 'push to purchase' occurring in metaverses will be important going forward, particularly if this is happening in less than explicit ways.

The speed of technological innovation that enables the existence and capacities of metaverses is transforming marketing strategies and creating new ways of engaging users and business growth [26]. The artificial intelligence and machine learning utilised by metaverses proficiently analyse large volumes of data in real-time [27], can understand user behaviour and preferences, personalise experiences, and allow for hyper-targeting of content to users [26]. This means that any regulatory responses for metaverse platforms are never going to be ahead of the field and will always be retrospective. The only effective response is to regulate the alcohol marketing itself. A ban on alcohol marketing, including in metaverses, will diminish the normalisation of alcohol products and reduce alcohol consumption [28].

4.1 | Limitations

The content analysis used data drawn from scoping 20 metaverses and numerous experiences within each metaverse. However, we are unlikely to have captured all new types of alcohol company marketing approaches in these metaverses as the broad environment is extremely dynamic. Our focus group discussion and thematic analysis was shaped by our individual and collective experiences and theoretical perspectives. Our positions, knowledge, and experiences will have shaped the ways in which we responded to the alcohol marketing content in the metaverses, and how we interpreted the group discussion data.

4.2 | Future research

Discussions about online content can provide a partial indicator of the meanings of alcohol marketing, and how alcohol and drinking are being represented. It is

important to also examine the ways in which alcohol marketing within metaverse environments is interpreted by metaverse users, what sense they make of it, and whether or not they ignore or engage with it, or resist or welcome it. Therefore, our next steps will include the perspectives of users who spend time in metaverses and who interact with this marketing—to see how it engages them, what it means to them, and whether it has any real-world impact in terms of brand engagement and consumption patterns, including online purchasing of alcohol products.

5 | CONCLUSION

Alcohol companies are using new and immersive marketing techniques in the metaverse. These include immersive commerce, virtual drinking, immersive branding and immersive engagement, gaming, NFTs, education, avatar wearables, NPCs promoting alcohol brands and virtual event-based marketing. The impact of these immersive alcohol marketing strategies on the experiences of users who spend time in metaverses, and consumption behaviours remains unknown and requires investigation using innovative methods.

AUTHOR CONTRIBUTIONS

Each author certifies that their contribution to this work meets the standards of the International Committee of Medical Journal Editors.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Research data are not shared.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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